

accurate  
reliable  
high-resolution  
fast sampling  
paper-thin  
flexible  
conformable  
non-intrusive  
pressure & force  
sensing



**The Leader in  
Tactile Pressure Measurement**  
Industrial and Research Solutions





## The only pressure we place is on ourselves.

Tekscan delivers the most advanced high-resolution, thin-film tactile pressure measurement systems in the world. Our systems are accurate, simple to use, and cost effective. Through superior service, we identify the needs of our customers and provide solutions of the highest quality and value.

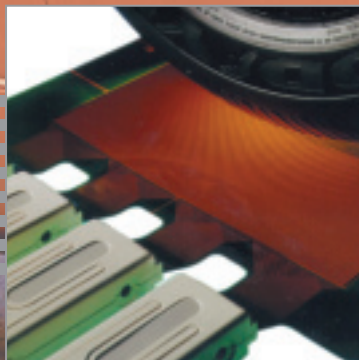
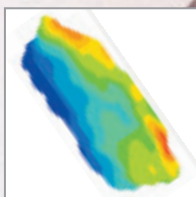
The only pressure we place is on ourselves.

### Applications:

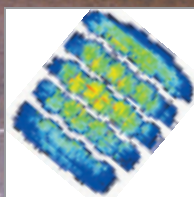
- Test & measurement
- Research & development
- Machine set-up
- Quality control
- Automotive
- Tires
- Brakes and friction plates
- Catalytic converters
- Wiper blades
- Airbags
- Hard gaskets and bolted joints
- Soft seals
- Seating and bedding design/comfort
- Impact studies
- Hose clamps and crimps
- Grip and ergonomics
- Fuel cell stack assembly
- Fasteners
- Nip and pinch rollers
- Wafer and glass polishing
- Lamination
- Liquid crystal display processing
- Mold filing
- Pressure garments
- Robotics
- Nozzle spray patterns
- Packaging and sealing
- Squeegee balancing



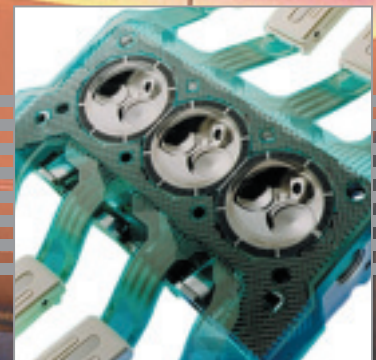
BRAKE



TIRE



WIPER



GASKET



## Serving many applications with proven solutions.

Founded in 1987, Tekscan is the world's leading provider of advanced high-resolution, thin-film tactile pressure measurement systems. Our solutions are at work in various industries including automotive, packaging, ergonomics, semiconductor, and many more. Tekscan's leadership is proven by the number of systems sold, research projects conducted, papers published, satisfied customers, and the diversity of applications addressed.

In addition to delivering the most advanced solutions, we provide the highest level of customer service. Our Sales Engineers will assist you in system selection as well as provide you with training and support. Tekscan's commitment is to provide you with the tools necessary to reap the greatest rewards from your system.

## For tactile pressure and force sensors, thin is in.

At the heart of each Tekscan system is our patented high-resolution, thin-film tactile pressure/force sensor array. Developed by scientists from MIT, our extremely thin (~0.1 mm) and flexible grid-based device is the standard by which all other sensors are measured. Thinness has numerous advantages; most importantly allowing for minimally intrusive measurements, resulting in the least disturbance to the true pressure pattern.

Each sensor consists of a matrix of rows and columns of a semi-conductive material that changes its electrical resistance when force is applied to it. These rows and columns intersect to form sensing elements. By electronically scanning and measuring the change in resistance at each individual sensing element, the timing, force, and location of contacts on the sensor surface can be determined. Our sensors are available in a wide range of shapes, sizes, and spatial resolutions, capable of measuring pressures ranging from 5 mmHg (0.1 PSI) to 175 MPa (25,000 PSI). Presently, we have over 200 standard sensors available and can customize sensors to provide you with the right solution for your specific requirements.

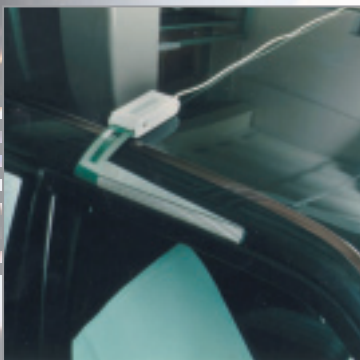
## If a picture is worth a thousand words...

...then a pressure image created by a Tekscan system is worth a thousand data points. Our solutions enable you to optimize design choices by providing high-resolution displays of tactile pressure data. The visual impact, simplicity, and clarity of our real-time 3D and 2D color images present graphically informative displays and intuitive operation.

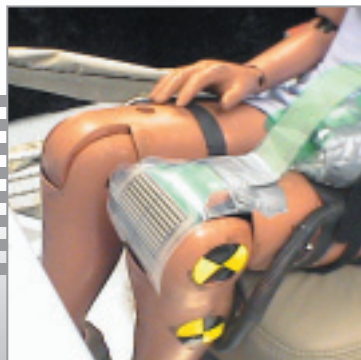
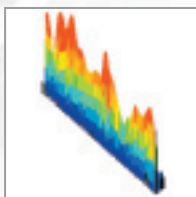
...and a Tekscan movie file tells the whole story of dynamic changes over time. Movies can be played back frame by frame using Tekscan's VCR-like controls. Force, area, and pressure information can be plotted over time or distance. You can also process and analyze Tekscan data with Excel or any other program that can import comma-delimited files. The end result is a powerful tool that supports visual and diagnostic analysis.

## Tekscan is at work throughout industry.

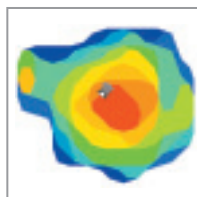
Advanced thin-film pressure measurement systems from Tekscan are used in a wide range of industrial and research applications. One way automotive manufacturers use our technology is to assess pressure distribution and comfort between the human body and vehicle seats. Gasket manufacturers employ our solutions for analysis of bolted joints. Whenever accurate, cost effective pressure distribution measurement is required, Tekscan is helping save companies millions of dollars in design, design verification, and reengineering costs.



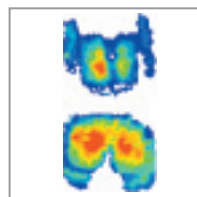
DOOR SEAL



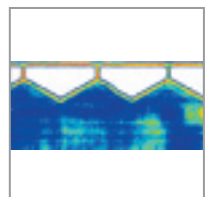
IMPACT



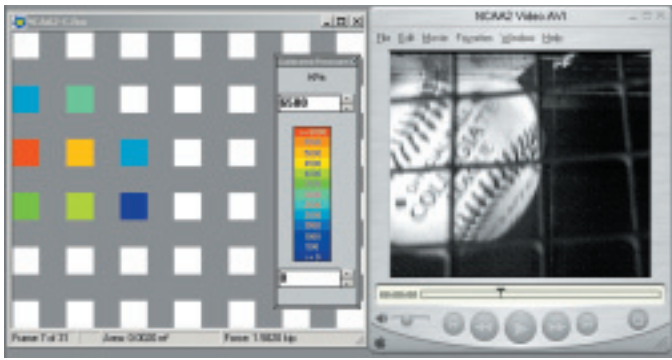
SEATING



FUEL CELL







High Speed *I-Scan* with Video Synch

## Superior solutions you can start with. And grow with.

Tekscan offers a wide selection of powerful yet user-friendly solutions. Our complete pressure measurement systems are simple to set up and include sensors, data acquisition electronics, and software that runs right from your laptop or desktop PC. The flexibility of our systems allow for use in a multitude of applications. Equally important, our solutions are designed to let you add on various sensor models, software modules, and upgrade options as your needs evolve.

### I-Scan® System

*I-Scan* is a general purpose and versatile system tailor-made, by choosing from over 200 available sensors, to meet your specific application.

### BPMS™ System

Body Pressure Measurement System (*BPMS*) uses large mat sensors to measure pressure distribution on support surfaces such as mattresses, seats, and cushions.

### TireScan™ System

*TireScan* electronically measures static and dynamic footprint pressure for passenger, truck, off-road, agricultural, and aircraft tires. It enables you to analyze data to assess tire footprint, tread design, and contact pattern.

### Wiper™ System

*Wiper* measures wiper blade to windshield interface profiles under various testing conditions.

### High Speed I-Scan®

High Speed *I-Scan* is an enhanced version of *I-Scan* that allows faster sampling speeds up to 10,000 Hz.

### Custom Sensors

In addition to offering over two hundred different standard sensors, Tekscan is renowned for its ability to produce custom sensors for specific applications. Sensing cells can be arrayed in virtually any pattern covering a wide range of areas. In fact, we can create sensing areas as large as 100 Ft<sup>2</sup> (9.3 m<sup>2</sup>) and with sensing cell densities as high as 1,600 per in<sup>2</sup> (248 per cm<sup>2</sup>). Sampling rates of up to one million sensing elements per second are available.

### Optional Add-Ons

#### Virtual System Architecture™ (VSA)

Larger areas are easily accommodated with our *Virtual System Architecture (VSA)* software solution. *VSA* allows you to view multiple sensors, positioned adjacent to one another, creating a continuous measurement region.

#### Video Synch™

Video sequences can be recorded and synchronized with your pressure data and visualized in Tekscan software, enhancing the utility of collected data.

#### API (Application Program Interface)

Tekscan's *API* software enable a user, with programming knowledge, to write programs that directly access Tekscan sensors and electronics or our sensor data buffers.

#### Matlab® Interface

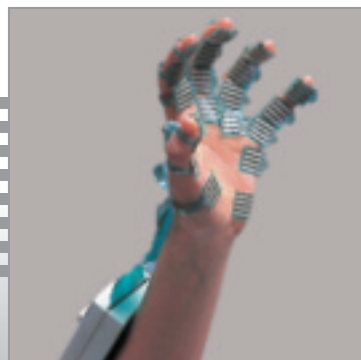
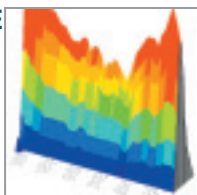
Allows you to export our standard file format into the *Matlab* environment for greater flexibility in analysis.

#### Equilibration Bladders

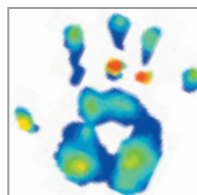
Bladders apply a uniform pressure to the active area of the sensor to normalize output of each sensing element. The system electronically compensates for variation in individual sensing elements.



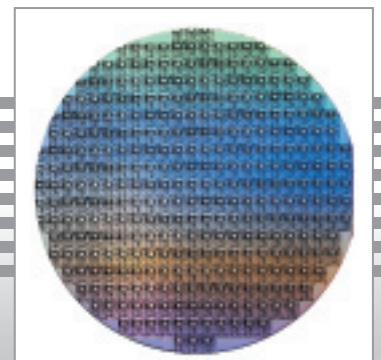
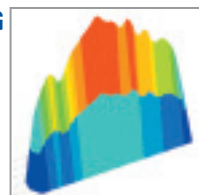
NIP PROFILE



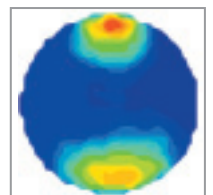
GRIP



PACKAGING



CMP



**With Tekscan solutions,  
seeing is believing.**

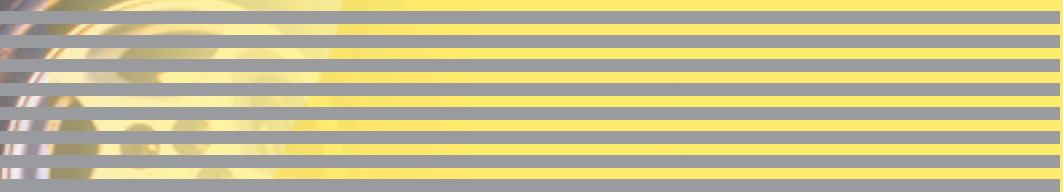
*You have to see our patented technology for yourself to truly grasp its significance. Here is what some of our customers had to say about their first experiences with Tekscan:*

*"Tekscan came in for a demonstration, and within five minutes we were watching a live output from our system and our jaws hit the floor. It literally made the pressure sensitive film we had been using look like bear skins and knives. It was that much of a quantum leap improvement. The Tekscan system paid for itself in the first five minutes. We got almost priceless information from it."*

Dave Otto  
Former Senior  
Research Engineer  
DuPont

*"I encountered Tekscan and had the feeling of an engineer's dream come true. Working with granular materials and soil-structure interaction, one encounters problems with large stress variations. My observations in a journal paper published by ASTM in 1997 continue to hold: "The ability of the grid-based tactile pressure sensor's system to provide real-time normal stress distribution over an area is unmatched by any other known technique. This ability provides us with an insight into the behavior and mechanisms of geomaterials that could not have been imagined previously."*

Samuel G. Paikowsky,  
ScD, Professor  
Geotechnical Engineering  
Research Lab  
University of Massachusetts



## The Bottom Line.

Tekscan provides total solutions. We design and manufacture the complete system and provide the support and training necessary to exceed your expectations. Experience Tekscan's eye-opening technology for yourself by taking part in a demonstration with a sales engineer, either over the Internet or at your facility. To make arrangements for your demo or for more information, call 800-248-3669 / 617-464-4500 or email [marketing@tekscan.com](mailto:marketing@tekscan.com).



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